10

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,596	12/07/2001	Michael M. Becker	GP123-02.UT	6565

21365 7590 04/01/2004

GEN PROBE INCORPORATED
10210 GENETIC CENTER DRIVE
SAN DIEGO, CA 92121

EXAMINER	
SISSON, BRADLEY L	

ART UNIT	PAPER NUMBER
1634	

DATE MAILED: 04/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/020,596	BECKER, MICHAEL M.	
	Examiner	Art Unit	
	Bradley L. Sisson	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/8/02 & 5/29/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Withdrawal of allowance

1. A question of patentability of one or more claims has been raised. Accordingly, prosecution on the merits is reopened.

Location of Application

2. The location of the subject application has changed. The subject application is now located in Workgroup 1630, Art Unit 1634, and has been docketed to Primary Examiner Bradley L. Sisson.

Specification

3. The use of the trademark TRITON X-100 has been noted in this application. While the trademark does appear in capitalized font, it also needs to be accompanied by the generic terminology.

4. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner, which might adversely affect their validity as trademarks.

5. The specification is objected to as documents have been improperly incorporated by reference. While page 1, third paragraph, of the specification states explicitly that "All references referred to herein are hereby incorporated by reference in their entirety," the specification does not teach with detailed particularity just what material is being incorporated

by reference and where that material is to be found in each of the cited documents. While applicant may well assert that this one sentence is to suffice for a proper incorporation by reference for all of the cited documents, of which there are many, it is noted with particularity that such catchall phrase lacks the requisite detailed particularity for precisely identifying what material applicant wants to have incorporated in the instant application and where that material is to be found. The one sentence employed here is silent as to what material is to be incorporated but asserts that it is found somewhere within the total disclosure of each of the documents and seeks to capture that unidentified material by incorporating the entire disclosures of all cited documents. Such omnibus language lacks the requisite detailed particularity for a proper incorporation by reference and as such, the cited documents have been considered without effect towards their fulfilling the enablement and/or written description requirements of 35 USC 112, first paragraph. As set forth in *Advanced Display Systems Inc. v. Kent State University* (Fed. Cir. 2000) 54 USPQ2d at 1679:

> Incorporation by reference provides a method for integrating material from various documents into a host document--a patent or printed publication in an anticipation determination--by citing such material in a manner that makes it clear that the material is effectively part of the host document as if it were explicitly contained therein. *See General Elec. Co. v. Brenner*, 407 F.2d 1258, 1261-62, 159 USQP 335, 337 (D.C. Cir. 1968); *In re Lund*, 376 F.2d 982, 989, 153 USPQ 625, 631 (CCPA 1967). **To incorporate material by reference, the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents.** *See In re Seversky*, 474 F.2d 671, 674, 177 USPQ 144, 146 (CCPA 1973) (providing that incorporation by reference requires a statement "clearly identifying the subject matter which is incorporated and where it is to be found"); *In re Saunders*, 444 F.2d 599, 602-02, 170 USPQ 213, 216-17 (CPA 1971) (reasoning that a rejection or anticipation is appropriate only if one reference "expressly incorporates a particular part" of another reference); *National Latex Prods. Co. v. Sun Rubber Co.*, 274 F.2d 224, 230, 123 USPQ 279, 283 (6th Cir. 1959) (requiring a specific reference to material in an earlier application in order to have that material considered a part of a later application); *cf. Lund*, 376 F.2d at 989, 13 USPQ at 631 (holding that **a one**

sentence reference to an abandoned application is not sufficient to incorporate from the abandoned application into a new application). (Emphasis added.)

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Attention is directed to the decision in *University of Rochester v. G.D. Searle & Co.* 68 USPQ2D 1424 (Fed. Cir. 2004) at 1428:

> To satisfy the written-description requirement, the specification must describe every element of the claimed invention in sufficient detail so that one of ordinary skill in the art would recognize that the inventor possessed the claimed invention at the time of filing. Vas-Cath, 935 F.3d at 1563; see also Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1572 [41 USPQ2d 1961] (Fed. Cir. 1997) (patent specification must describe an invention and do so in sufficient detail that one skilled in the art can clearly conclude that "the inventor invented the claimed invention"); In re Gosteli, 872 F.2d 1008, 1012 [10 USPQ2d 1614] (Fed. Cir. 1989) ("the description must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed"). Thus, an applicant complies with the written-description requirement "by describing the invention, with all its claimed limitations, not that which makes it obvious," and by using "such descriptive means as words, structures, figures, diagrams, formulas, etc., that set forth the claimed invention." Lockwood, 107 F.3d at 1572.

8. For convenience, clam 1, the only independent claim, is reproduced below.

1. (Currently Amended) A method for forming a duplex from a polynucleotide probe and a target nucleic acid, said method comprising ~~the steps of~~ providing the following to a test sample:

~~providing said~~ a polynucleotide probe ~~to a test sample~~ under conditions permitting said probe to preferentially hybridize to ~~said~~ a target nucleic acid, if present, in said sample; ~~and~~

~~providing~~ a synthetic polycationic polymer ~~to said sample~~ in an amount sufficient to increase the association rate of said probe and said target nucleic acid in said sample under said conditions; and

a dissociating reagent to dissociate said polymer from said probe and said target nucleic acid.

9. For purposes of examination, the phrase "forming a duplex" has been interpreted as encompassing forming both duplex and triplex structures, as a triplex structure comprises a duplex structure. The clause "in an amount sufficient to increase the association rate of said probe an said target nucleic acid" has been interpreted as encompassing values that both allow for an exceed this increased rate of association.

10. The term "polycationic polymer" has been interpreted as fairly encompassing both organic and inorganic polycationic polymers, where said polymers can exhibit the range of hydrophobicity and hydrophilicity and can have virtually any upper mass (claim 7 excepted).

11. While claim 1 has been limited in that the conditions used are such that it the probe will "preferentially hybridize" to the target, such language has been interpreted as fairly encompassing the formation of duplex structures with non-target sequences in nearly equal amounts.

12. Claim 1 has also been interpreted as fairly encompassing including any amount of "dissociating reagent" and that said reagent might be present at any and all steps of the claimed method. Said "dissociating reagent" has also been interpreted as not being present in an amount

or condition sufficient to cause any such dissociation; e.g., water can be a dissociation reagent if heated to 100 C, but could be construed as an association agent at 37 C.

13. The claimed method has also been interpreted as fairly encompassing the formation of a duplex structure where the target nucleic acid can be virtually any sequence, including those associated with detecting and diagnosing disease sates in any organism, detecting any and all genes and mutations therein as found in any and all possible life forms and where an infinite number of such duplex structures may be formed in a highly heterogeneous mixture. Said method has also been interpreted as fairly encompassing the use of virtually any probe. Said probe could comprise modified and unmodified nucleotides, be of virtually any length and have secondary structures, e.g., hairpins (claim 8).

14. A review of the disclosure finds but two examples; Example 1, pages 42-48, and Example 2, page 49. As seen in Example 1, six different polymers were tested:

- poly-L-lysine hydrobromide with a molecular weight of from 20,000 to 30,000 Da
- poly-L-lysine hydrobromide with a molecular weight of from 150,000 to 300,000 Da
- poly (lys, tyr) 4:1, with an indicted molecular weight of 24,600 Da (visible)
- poly-L-histidine hydrochloride with an indicted molecular weight of 15,800 Da (using low angle laser light scattering)
- poly-L-arginine hydrochloride with an indicated molecular weight of 11,800 (visible)
- Hexadimethrine bromide

As seen at pages 42-43, but one probe and one target sequence were used, and then but a constant amount of probe and target were used under two hybridization conditions (high and low salt hybridization buffers (page 43, lines 25-27)). In Example 2, page 49, a different probe (SEQ

ID NO:2) was used, however, this hinged probe still binds to the same target sequence. A review of the disclosure fails to find an adequate written description of other probes, targets or reaction conditions. Claims 28 and 30 place no upper limit on the monovalent cations present, however, the specification has not been found to provide an adequate written description of all concentrations encompassed by the claimed methods. Similarly, claims 28 and 30 place no upper limit on the temperature at which the reaction is conducted. The specification, however, fails to provide an adequate written description showing that the claimed method can be practiced at any temperature above 40 C. The specification has not been found to set forth a reproducible procedure where by unknown, yet highly complementary sequences would be prohibited from binding to probes. While the probe used in Example 1 was labeled with an acridinium ester, a review of the disclosure fails to find where any other label had been used with this, or any other probe. Accordingly, the specification does not reasonably suggest that applicant had possession of the genus of probes, targets, labels, and reaction conditions that would allow for the practice of the full genus of the claims' scope. It appears that applicant is attempting to satisfy the written description requirement of 35 USC 112, first paragraph, through obviousness. Obviousness, however, cannot be relied upon for satisfaction of the written description requirement. In support of this position, attention is directed to the decision in *University of California v. Eli Lilly and Co.* (Fed. Cir. 1997) 43 USPQ2d at 1405, citing *Lockwood v. American Airlines Inc.* (Fed. Cir. 1997) 41 USPQ2d at 1966:

> Recently, we held that a description which renders obvious a claimed invention is not sufficient to satisfy the written description requirement of that invention.

15. For the above reasons, and in the absence of convincing evidence to the contrary, claims 1-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

16. Claims 1-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. As set forth in *Enzo Biochem Inc., v. Calgene, Inc.* (CAFC, 1999) 52 USPQ2d at 1135, bridging to 1136:

> To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.' " *Genentech, Inc. v. Novo Nordisk, A/S*, 108 F.3d 1361, 1365, 42 USPQ2d 1001, 1004 (Fed. Cir. 1997) (quoting *In re Wright*, 999 F.2d 1557, 1561, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993)). Whether claims are sufficiently enabled by a disclosure in a specification is determined as of the date that the patent application was first filed, see *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986).... We have held that a patent specification complies with the statute even if a "reasonable" amount of routine experimentation is required in order to practice a claimed invention, but that such experimentation must not be "undue." See, *e.g.*, *Wands*, 858 F.2d at 736-37, 8 USPQ2d at 1404 ("Enablement is not precluded by the necessity for some experimentation . . . However, experimentation needed to practice the invention must not be undue experimentation. The key word is 'undue,' not 'experimentation.' ") (footnotes, citations, and internal quotation marks omitted). In *In re Wands*, we set forth a number of factors which a court may consider in determining whether a disclosure would require undue experimentation. These factors were set forth as follows: (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims. *Id.* at 737, 8 USPQ2d at 1404. We have also noted that all of the factors need not be reviewed when determining whether a disclosure is enabling. See *Amgen, Inc. v. Chugai Pharm. Co., Ltd.*, 927 F.2d 1200, 1213, 18 USPQ2d 1016, 1027 (Fed. Cir. 1991) (noting that the *Wands* factors "are illustrative, not mandatory. What is relevant depends on the facts.").

17. As noted above, the specification does not provide an adequate written description of the probes, targets, and reaction conditions so as to reasonably suggest that applicant had possession of the invention at the time of filing. It is well settled that one cannot enable that which they do not yet possess. Accordingly, claims 1-36 are rejected under 35 USC 112, first paragraph, as failing to comply with the enablement requirement.

18. Claims 1-36 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility.

As presently worded, the method of claim 1 may well not result in the production of any product as the method requires the employment of conditions that both promote hybridization and dissociate that which has hybridized. It is further noted that even if a hybridization product is realized, it is not detected and even if detected, it need not correlate with any useful property or condition. In short, the claims fairly encompass hybridizing random probes to unknown sequences for which no substantial asserted utility or well-established utility exists.

19. Claims 1-36 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

20. Claims 33-36 require that one perform a determination step, however, the claimed method does not require the unbound/unhybridized probe be separated from that which has bound to the target sequence. Further, the claims do not require or otherwise prohibit the probe from binding to self, or to non-target sequences, which can be present even in significant

amounts. It would therefore be impossible for one of skill in the art to readily determine to what degree, if at all, any given signal is the result of the probe hybridizing to the target and not to non-target entities. Assuming *arguendo*, that target and non-target all bind the probe, there is not disclosed a reproducible procedure whereby one would be able to discern which signal belongs to the desired duplex structure.

21. Therefore, and in the absence of convincing evidence to the contrary, claims 1-36 are rejected under 35 USC 112, first paragraph.

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

24. Claims 1-7, 10-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,255,476 B1 (Vinayak et al.).

25. Vinayak et al., column 15, discloses using polycationic polymers in combination with hybridization reactions. Specifically identified is poly-lysine. Also disclosed is the aspect of having the polycationic polymer linked to polynucleotides that are undergoing hybridization with a complementary sequence. Such disclosures meet the limitation that the units of the polymer be covalently bound and that the cationic monomer units are in molar excess of he phosphate groups of the probe. The aspect of having the polycationic polymer bound to nucleic acid meets the limitation that the polymer is a copolymer or a grafted copolymer. The aspect of using poly-lysine as the polycationic polymer also meets the limitation that the polymer has a delocalized charge (claim 5). Further, column 7 teaches explicitly that the probe can be attached to copolymers or grafts of such.

26. The limitation of the probe being a polyanion is met by the negative charge of the phosphate groups found on the nucleotides that comprise the probe; this meets a limitation of claim 10.

27. Claim 11 has been interpreted for purposes of examination to set forth Markush group from which one or both members could be selected.

28. The probe being bound to the polycation meets the limitation that the probe further comprises “at least one of a cationic group and a nonionic group”.

29. The aspect of the target comprising RNA is met at column 6, which teaches that the polynucleotide (applicant’s target) can comprise ribonucleotides, in either single- or double stranded form.

30. The limitation of having the polymer and probe in solution, or being water-soluble (claims 19 ad 20) is met by the use of a hybridization solution.

In view of the detailed teachings of the prior art of record, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed the disclosure of Vinayak et al., such that a duplex polynucleotide structure is formed in the presence of a polycationic polymer and a dissociating reagent, where the dissociating reagent could be water. While Vinayak et al., do not teach the concentration ranges, temperatures, or association rates, such limitations are considered to be the result of routine optimization and do not impart patentability. It is well settled that routine optimization is not patentable, even if it results in significant improvements over the prior art. In support of this position, attention is directed to the decision in *In re Aller, Lacey, and Hall*, 105 USPQ 233 (CCPA 1955):

> Normally, it is to be expected that a change in temperature, or in concentration, or in both, would be an unpatentable modification. Under some circumstances, however, changes such as these may impart patentability to a process if the particular ranges claimed produce a new and unexpected result which is different in kind and not merely in degree from the results of the prior art. In re Dreyfus, 22 C.C.P.A. (Patents) 830, 73 F.2d 931, 24 USPQ 52; In re Waite et al., 35 C.C.P.A. (Patents) 1117, 168 F.2d 104, 77 USPQ 586. Such ranges are termed "critical" ranges, and the applicant has the burden of proving such criticality. In re Swenson et al., 30 C.C.P.A. (Patents) 809, 132 F.2d 1020, 56 USPQ 372; In re Scherl, 33 C.C.P.A. (Patents) 1193, 156 F.2d 72, 70 USPQ 204. However, even though applicant's modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art. In re Sola, 22 C.C.P.A. (Patents) 1313, 77 F.2d 627, 25 USPQ 433; In re Normann et al., 32 C.C.P.A. (Patents) 1248, 150 F.2d 708, 66 USPQ 308; In re Irmscher, 32 C.C.P.A. (Patents) 1259, 150 F.2d 705, 66 USPQ 314. More particularly, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Swain et al., 33 C.C.P.A. (Patents) 1250, 156 F.2d 239, 70 USPQ 412; Minnesota Mining and Mfg. Co. v. Coe, 69 App. D.C. 217, 99 F.2d 986, 38 USPQ 213; Allen et al. v. Coe, 77 App. D. C. 324, 135 F.2d 11, 57 USPQ 136. (Emphasis added)

A review of the disclosure fails to find evidence that the claimed concentrations and combination of reactants possess such criticality. Indeed, page 29, lines17-19 teaches that the claimed invention was reached "through routine screening."

Therefore, and in the absence of convincing evidence to the contrary, claims 1-7 and 9-36 are rejected under 35 USC 103(a).

31. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,255,476 B1 (Vinayak et al.) as applied to claims 1-7 and 9-36 above, and further in view of US Patent 6,380,377 B1 (Dattagupta).

32. See above for the basis f the rejection as it pertains to the disclosure of Vinayak et al.

33. Vinayak et al., do not disclose the probe of claim 8.

34. Dattagupta teach at length the development and use of probes that form a hairpin structure when not bound to a target sequence, and form a duplex structure with the target sequence when not in the hairpin (linear or open) configuration.

35. Dattagupta, column 14, teaches having the hairpin probe labeled directly. Numerous labels are disclosed, including using multiple labels so as to permit fluorescence resonance energy transfer (FRET). By employing FRET, the probe would have one detectable signal when in the hairpin configuration and a second detectable signal when in the (open/non-hairpin) duplex formation with the target sequence.

36. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the probe of Dattagupta into the method of Vinayak et al., as such would have allowed for a method of detecting target sequences without having to remove unhybridized probe and its associated label from the reaction mixture prior to any detection step, herby saving time and expense.

37. In view of the detailed teachings and explicit guidance, the ordinary artisan would have been both amply motivated and would have had a most reasonable expectation of success. Therefore, and in the absence of convincing evidence to the contrary, claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,255,476 B1 (Vinayak et al.) as applied to claims 1-7 and 9-36 above, and further in view of US Patent 6,380,377 B1 (Dattagupta).

Conclusion

38. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. US Patent 5,731,148 (Becker et al.), column 16, discloses using a DNA probe labeled with an acridinium ester moiety, and is used with a hybridization buffer comprising TRITON X-100.

39. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley L. Sisson whose telephone number is (571) 272-0751. The examiner can normally be reached on 6:30 a.m. to 5 p.m., Monday through Thursday.

40. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571) 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

41. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

B. L. Sisson

Bradley L. Sisson
Primary Examiner
Art Unit 1634

BLS
30 March 2004